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GYPSUM: TECHNICAL PUBLICATIONS BY MEMBERS OF THE
STAFF OF THE NATIONAL BUREAU OF STANDARDS

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GENERAL INFORMATION

Some of the publications in this list have appeared in the regular series of publications of the Bureau and others in various scientific and technical journals. Unless specifically stated, papers are not obtainable from the National Bureau of Standards.

Where the price is stated, the publication can be purchased from the Superintendent of Documents, Government Printing Office, Washington 25, D.C. The prices quoted are for delivery to addressees in the United States and its territories and possessions and in certain countries which extend the franking privilege. In the case of all other countries, one-third the cost of the publication should be added to cover postage. Remittances should be made either by coupons (obtainable from the Superintendent of Documents in sets of 20 for \$1.00 and good until used) or by check or money order payable to the "Superintendent of Documents, Government Printing Office" and sent to him with order. Letter Circulars are obtainable, without charge, from the Bureau. Publications marked "OP" are out of print, but, in general, may be consulted at technical libraries.

For papers in other scientific or technical journals, the name of the journal or of the organization publishing the article is given in abbreviated form with the volume number(underscored), page, and year of publication, in the order named.

Serial letters are used to designate the several series of Bureau publications:

- S "Scientific Paper." S1 to S329 are "Reprints" from the "Bulletin of the Bureau of Standards." S330 to S572 were published as "Scientific Papers of the Bureau of Standards." This series was superseded by the "Bureau of Standards Journal of Research" in 1928.
- T "Technologic Paper." T1 to T370. This series was superseded by the "Bureau of Standards Journal of Research" in 1928.
- RP "Research Paper." These are reprints of articles appearing in the "Bureau of Standards Journal of Research" and the "Journal of Research of the National Bureau of Standards," the latter being the title of this periodical since July 1934(volume 13, number 1).
- C "Circular."
- LC "Letter Circular."
- BH "Building and Housing" publication.
- BMS "Building Materials and Structures" report.
- M "Miscellaneous Publications."
- R "Simplified Practice Recommendation."
- FS "Federal Specifications."

Circular C24 and supplements, the complete list of the Bureau's publications (1901-1944), is sold by the Superintendent of Documents for \$1.30. Announcement of new publications is made each month in the Technical News Bulletin which is obtainable by subscription at \$1.00 a year, \$1.35 a year to foreign countries.

PART I SCIENTIFIC PAPERS

	Series	Price
Transmission of sound by some building materials. E.A.Eckhardt and V.L.Chrysler. Sci. Pap. BS <u>21</u> , 37(1926).	S526	OP
Transmission of sound through building materials. V.L.Chrysler. Sci. Pap. BS <u>22</u> 227(1927).	S552	OP

PART II TECHNOLOGIC PAPERS

	<u>Series</u>	<u>Price</u>
Durability of stucco and plaster construction R.J.Wig, J.C.Pearson and W.E.Emley. Tech. Pap. BS, T70 (1916-17).	T70	OP
A comparison of the heat-insulating properties of some of the materials used in fire-resistive construction. Walter A. Hull. Tech. Pap. BS, T130 (1919).	T130	OP
Colored wall plaster. W.E.Emley and C.F.Faxon. Tech. Pap. BS, T181 (1920-21).	T181	OP
Fire tests of building columns. S.H.Ingberg, H.K.Griffin, W.C.Robinson and R.E.Wilson, Tech. Pap. BS, T184(1921).	T184	.75

PART III RESEARCH PAPERS

Fire resistance of hollow load-bearing wall tile. S.H.Ingberg and H.D.Foster (Includes fire tests on wall tile covered with gypsum plaster.) BS J. Research <u>2</u> , 1(1929).	RP37	OP
Transmission of sound through wall and floor structures. V.L.Chrisler and W.V.Snyder. BS J. Research <u>2</u> , 541(1929).	RP48	.OP
The sulphoaluminates of calcium. William Lerch, F.W. Ashton, and R.H.Bogue. BS J. Research <u>2</u> , 715(1929).	RP54	.10
Heat transfer through building walls. M.S.Van Dusen and J.L.Finck. BS J. Research <u>6</u> , 493(1931).	RP291	OP
Fire tests of columns protected with gypsum. Nolan D. Mitchell. BS J. Research <u>10</u> , 737(1933).	RP563	.05
Comparative efficiencies of various dehydrating agents used for drying gases (a survey of commer- cial drying agents). J.H.Bower. J. Research NBS <u>12</u> , 241(1934).	RP649	OP
Recent sound-transmission measurements at the National Bureau of Standards. V.L.Chrisler and W.V.Snyder. J. Research NBS <u>14</u> , 749(1935).	RP800	OP
Heats of hydration and transition of calcium sulfate. Edwin S. Newman and Lansing S. Wells. J. Research NBS <u>20</u> , 825(1938).	RP1107	.05

PART III RESEARCH PAPERS (Continued)

	<u>Series</u>	<u>Price</u>
Behavior of calcium sulfate at high temperatures. E.S.Newman, J. Research NBS <u>27</u> , 191(1941).	RP1413	.05
Effects of added materials on some properties of hydrating portland cement clinkers. E.S.Newman, R.L.Blaine, C.H.Jumper, and G.L.Kalousek, J. Research NBS <u>30</u> , 281(1943).	RP1533	.10
Function of carbon dioxide in producing efflorescence on plaster and cement products. D.L.Bishop, J. Research NBS <u>30</u> , 361(1943).	RP1538	.05
Revised results obtained with certain dehydrat- ing agents used for drying gases. J.H.Bower, J. Research NBS <u>33</u> , 199(1944).	RP1603	OP

PART IV CIRCULARS

Materials for the household. Cir. BS, C70(1917).	C70	OP
Gypsum - properties, definitions, and uses. Cir. BS, C108(1921).	C108	OP
Wall plaster: Its ingredients, preparation and properties. Cir. BS, C151(1924).	C151	.15
The technology of the manufacture of gypsum products. Cir. BS, C281(1926).	C281	OP
Physical properties of dental materials W. Souder and G.C.Paffenbarger(Feb.6, 1942).	C433	\$1.00

PART V LETTER CIRCULARS

	(Free on application to this Bureau)
Standard specifications for sieves	LC584
Sound absorption coefficients of the more common materials	LC870
Painting interior walls and trim	LC837
Dental materials - publications by the staff of the National Bureau of Standards, and Research Associates on dental materials	LC893
List of published material relating to build- ing regulations	LC847

PART V LETTER CIRCULARS (Continued)

	<u>Series</u>
Standards and specifications for building and construction materials, fixtures, supplies, and equipment.	LC896
Fire resistance and fire prevention. Publication by the staff of the National Bureau of Standards.	LC862
List of published material relating to home building and maintenance.	LC885

PART VI BUILDING AND HOUSING PUBLICATIONS

	<u>Series</u>	<u>Price</u>
Care and repair of the house. V.B.Phelan. Bldg. & Hous. BS. BH15 (1931).	BH15	.20
Recommended minimum requirements for small dwelling construction. Bldg. & Hous. BS, BH18(1932);	BH18	OP

PART VII BUILDING MATERIALS & STRUCTURES REPORTS

Suitability of fiber insulating lath as a plaster base. Lansing S. Wells and D.C.Smith. Bldg. Materials & Structures BMS3(1938).	BMS3	.15
Structural properties of the Curren Fabrihome Corporation's "Fabrihome" constructions for walls and partitions. H.L.Whittemore, A.H.Stang, and V.B.Phelan. (Dec. 28, 1938).	BMS11	.10
Sound insulation of wall and floor construction, V.L.Chrysler (Mar. 28, 1939). Supplement to BMS 17 (Dec. 20, 1940).	BMS17	.20
Structural properties of "Pre-Fab" construction for walls, partitions, and floors, sponsored by the Harnischfeger Corporation. H.L.Whittemore, A.H.Stang, and V.B.Phelan. (May 17, 1939).	BMS18	.10
Structural properties of conventional wood-frame constructions for walls, partitions, floors, and roofs. George E. Heck. (Sept. 13, 1939).	FMS25	.15
Structural properties of "Insulite" wall and "Insulite" partition constructions, sponsored by the Insulite Co. H.L.Whittemore and A.H.Stang, with T.R.C.Wilson, Forest Products Laboratory (Oct. 26, 1939).	BMS31	.15

PART VII BUILDING MATERIALS & STRUCTURES REPORTS(Continued)

	<u>Series</u>	<u>Price</u>
Structural properties of wood-frame wall, partition, floor, and roof constructions with "Red Stripe" lath, sponsored by the Weston Paper and Manufacturing Co., H.L.Whittemore and A.H.Stang, with T.R.C.Wilson. (Jan. 2, 1940).	BMS36	.10
Structural properties of wood-frame wall and partition constructions with "Celotex" and insulating boards. Herbert L. Whittemore and Ambrose H. Stang.	BMS42	.15
Structural properties of prefabricated wood-frame constructions for walls, partitions, and floors sponsored by American Houses, Inc., H.L.Whittemore and A.H.Stang, with T.R.C.Wilson, Forest Products Laboratory (June 3, 1940).	BMS47	.10
Fire tests of wood- and metal-framed partitions , S.H.Ingberg and Nolan D. Mitchell(May 12, 1941).	BMS71	.20
Fire-resistance classifications of building constructions. Report of Subcommittee on Fire-Resistance Classifications, Central Housing Committee on Research, Design, and Construction. (Oct. 7, 1942).	BMS92	.30
Building code requirements for new dwelling construction. (Jan. 1, 1947).	BMS107	.20

PART VIII MISCELLANEOUS PUBLICATIONS

Paint for priming plaster surfaces. Percy H. Walker and E.F.Hickson. Misc. Pub. BS, M137(1932).	M137	OP
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PART IX SIMPLIFIED PRACTICE RECOMMENDATIONS

Metal Lath (2nd edition) (1937).	R3	.05
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PART X FEDERAL SPECIFICATIONS

Investment; casting, inlay, dental	U-I-496	.05
Stone; artificial, quick-setting(dental)	U-S-746	.05
Bandages; plaster-of-paris	GG-B-101b	.05
Bases, metal; (for) plaster and stucco construction	QQ-B-101c	.05
Cement, Keene's	SS-C-161	.05

PART X FEDERAL SPECIFICATIONS (Continued)

	<u>Series</u>	<u>Price</u>
Crayons; chalk, white	SS-C-638a	.05
Plaster; gypsum	SS-P-402	.05
Plaster-board; gypsum	SS-P-431a	.05
Plaster-of-paris; dental and orthopedic	SS-P-446	.05
Sheathing-board; gypsum	SS-S-276	.05
Tile; partition, gypsum	SS-T-316	.05
Wallboard; gypsum	SS-W-51a	.05

PART XI OUTSIDE PUBLICATIONS

A chronological list of papers which have appeared in various scientific and technical journals.

Measurement of the time of set of calcined gypsum. W.E.Emley. Trans. Am. Ceramic Soc. (2525 N. High St., Columbus, Ohio), 19, 573(1917).

Tests of clays and limes by the Bureau of Standards plasticimeter. F.A.Kirkpatrick and W.B.Orange. J. Am. Ceramic Soc., 1, 170(1918). (Includes tests on lime-gypsum pastes.)

Some factors influencing the time of set of calcined gypsum. F.F. Householder. J. Am. Ceramic Soc., 1, 578(1918).

Tests of plain and reinforced gypsum specimens. W.A.Slater and G.P. Anthes. J. West. Soc. of Engrs. (205 W. Wacker Drive, Chicago, Ill.), 24, 399(1919); Discussion, 24, 595(1919).

Tentative report on design of reinforced gypsum beams. W.A.Slater Proc. Am. Soc. for Testing Materials (1916 Race Street, Philadelphia, Pa.), 19, Part I, 348(1919).

Results of testing gypsum products. W.E.Emley and C.F.Faxon. J. Am. Ceramic Soc., 3, 984 (1920).

Colored wall plaster. W.E.Emley and C.F.Faxon. Rock Products. (330 S. Wells St., Chicago, Ill.), 24, 35 (June 4, 1921); also Tech. Pap. BS, T181 (1920-21) under the same title.

Normal consistency of sanded gypsum plaster. W.E.Emley and C.F.Faxon. J. Am. Ceramic Soc., 4, 152 (1921).

Effect of fineness on other properties of calcined gypsum. W.E.Emley and F.C.Welch. J. Am. Ceramic Soc., 4, 301(1921).

PART XI OUTSIDE PUBLICATIONS (Continued)

U.S. Patent No. 1,392,574; Plastic gypsum plaster. W.E.Emley. Chem. and Met. Eng. (McGraw-Hill Co., 330 W. 42nd St., New York, N.Y.), 24, 740 (1921); Rock Products (Trade Press Publishing Co., 330 S. Wells St., Chicago, Ill.), 24, 40 (May 7, 1921); Eng. News-Record (McGraw-Hill Co., 330 W. 42nd St., New York, N.Y.), 86, 1023 (1921); Eng. and Contracting, (Gillette Publishing Co., 221 E. 20th St., Chicago, Ill.), June 22, 1921.

Specifications for the color of gypsum plaster. W.E.Emley and C.F.Faxon. Chem. and Met. Eng. (McGraw-Hill Co., 330 W. 42nd St., New York, N.Y.), 24, 1054 (1921).

Gypsum plaster and wall boards. J.M.Porter. Proc. Am. Soc. for Testing Materials (1916 Race Street, Philadelphia, Pa.), 22, Part I, 359 (1922).

Volumetric changes of gypsum. J.M.Porter. Proc. Am. Soc. for Testing Materials, 23, Part I, 244 (1923).

Fire resistive properties of gypsum. S.H.Ingberg. Proc. Am. Soc. for Testing Materials, 23, Part I, 254 (1923).

Effects of accelerators and retarders on calcined gypsum. F.C. Welch. J. Am. Ceramic Soc., 6, 1197 (1923).

Analysis of gypsum and gypsum products. F.C.Welch. J. Ind. Eng. Chem., (American Chemical Society, Mills Bldg., Washington, D.C.) 16, 238 (1924).

Effect of Tennessee ball clay upon the tensile strength of gypsum. J.M.Porter. Rock Products (330 S. Wells St., Chicago, Ill.), 27, 47 (Feb. 23, 1924).

Effect of composition on some properties of gypsum plasters. F.C.Welch. Rock Products, 27, 27 (Nov. 15, 1924).

Properties of gypsum tile. J.M. Porter. Proc. Am. Soc. for Testing Materials, 24, Part II, 901 (1924).

Getting rid of efflorescence on gypsum plaster. F.C. Welch. Chem. and Met. Eng. (Published by McGraw-Hill Co., 330 W. 42nd St., New York, N.Y.), 31, 263 (Aug. 18, 1924).

Work of the Bureau of Standards for 1924 on lime, gypsum and sandlime brick. Rock Products, 27, 121 (Dec. 27, 1924).

Sands for lime, gypsum and cement plasters. H.V.Johnson. Rock Products, 28, 54 (March 21, 1925).

PART XI OUTSIDE PUBLICATIONS (Continued)

The fire resistance of gypsum partitions. S.H.Ingberg. Proc. Am. Soc. for Testing Materials (1916 Race Street, Philadelphia, Pa.), 25, Part II, 299 (1925).

Some modern gypsum products. J.M.Porter. Chem. and Met. Eng. 32, 499 (1925).

The adhesion of gypsum plaster to various backings. J.P.C.Peter. Am. Architect (International Publications, 372 Madison Ave., New York, N.Y.), 128, September 9, 1925.

Factors affecting the time of set of mechanically mixed gypsum mortars. L.E.Smith. Rock Products (Trade Press Publishing Co., 330 S. Wells St., Chicago, Ill.), 28, 61 (Aug. 22, 1925).

Effect of storage of calcined gypsum on linear expansion of gypsum plaster, L.E.Smith. Rock Products, 28, 54 (Oct. 3, 1925).

The adhesion of gypsum plaster to concrete. Cement, Mill and Quarry (Complete Service Publishing Co., 538 S. Clark St., Chicago, Ill.), 32, (Oct. 20, 1925).

Recent work of the lime, gypsum and sand-lime brick section of the Bureau of Standards. Rock Products, 28, 60 (Oct. 31, 1925).

Effect of the process of manufacture on the properties of calcined gypsum. L.E.Smith, Rock Products, 29, 56 (May 1, 1926).

Some properties of gypsum-lime mixes. L.E.Smith. Rock Products, 29, 39 (Nov. 27, 1926).

Work of the Bureau of Standards in 1926 on lime, gypsum and sand-lime brick. Rock Products, 30, 59 (Jan. 8, 1927).

Some advances in gypsum technology. J.M.Porter. Chem. and Met. Eng., 33, 549 (1926).

Adhesion of plaster and stucco to hollow clay tile. J.A.Murray and H.D.Foster. Am. Architect (International Publications, 372 Madison Ave., New York, N.Y.), 132, 829 (Dec. 20, 1927); Brick and Clay Record (Industrial Publications, 59 E. Van Buren St., Chicago Ill.) 72, 34 (1928); Contract Record (Hugh O. McLean Publications, Ltd., 347 Adelaide St., W., Toronto 2, Canada) 42, 80 (1928).

Experimental electrical rotary calciner. J.A.Murray. Chem. and Met. Eng. (McGraw-Hill Co., 330 W. 42nd St., New York, N.Y.), 34, 697 (1927).

PART XI OUTSIDE PUBLICATIONS (Continued)

Effect of various admixtures on the workability and other properties of gypsum plasters. M.C.Daily and J.P.C.Peter. Bul. Gypsum Industries (The Gypsum Association, 311 W. Wacker Drive, Chicago, Ill.), 1927.

Expansion of a calcined gypsum on setting. J.A.Murray. Rock Products, 31, 88 (Jan 21, 1928).

Limes, structural cements and plasters. P.H.Bates and J.M.Porter. Survey of American Chemistry, 255 and 262, Third Annual, 1928.

Properties of gypsum fiber concrete. Proc. Am. Soc. for Testing Materials (1916 Race Street, Philadelphia, Pa.), 30, Part I, 719 (1930).

Volume changes of gypsum fiber concrete. H.F.McMurdie and F.L.Marsh. Rock Products, 35, 20 (March 26, 1932).

Gypsum-incased steel columns subjected to fire tests. N.D.Mitchell. Eng. News-Record (McGraw-Hill Co., 330 W. 42nd St., New York, N.Y.), 111, 195 (1933).

New Plaster and stucco standards to prevent failures. J.W.McBurney. Industrial Standardization (American Standards Association, 70 E. 45th Street, New York, N.Y.) 18, 79(1947).

Investigations of plaster failure. E.S.Newman. Am. Ceramic Soc. Bulletin (2525 N. High Streets, Columbus 2, Ohio) 26, 117(1947).

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